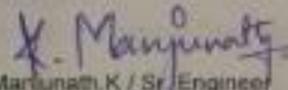
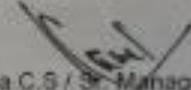


Prüfbericht - Nr.: 19631087 001 <i>Test Report No.:</i>		Seite 1 von 11 Page 1 of 11	
Auftraggeber: <i>Client:</i>	Solar Idea Pvt. Ltd. 8-2-277/A/7, Plot No.126, Road No.2, Banjara Hills, Hyderabad - 500034, Telangana, India		
Gegenstand der Prüfung: <i>Test item:</i>	Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller		
Bezeichnung: <i>Identification:</i>	1500VA	Serien-Nr.: <i>Serial No.:</i>	091604002438
Wareneingangs-Nr.: <i>Receipt No.:</i>	1803169361	Eingangsdatum: <i>Date of receipt:</i>	2016.09.26
Prüfort: <i>Testing location:</i>	TÜV Rheinland (India) Pvt. Ltd. Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India		
Prüfgrundlage: <i>Test specification:</i>	IEC 60068-2-30, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2 (As per MNRE / Customer requirement).		
Prüfergebnis: <i>Test Result:</i>	Refer section " Summary of testing "		
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland (India) Pvt. Ltd. Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India		
geprüft/tested by:		kontrolliert/reviewed by:	
 2016-11-18 Marjunath.K / Sr. Engineer		 2016-11-18 Kamaiah C.S / Sr. Manager	
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>
			Name/Stellung <i>Name/Position</i>
			Unterschrift <i>Signature</i>
Sonstiges/Other Aspects:			
This report consists of 11 pages including the following attachments: Attachment 1: Photo Document			
Abkürzungen: <i>Full</i>	Pass/ =	= entspricht Prüfgrundlage <i>entpricht nicht Prüfgrundlage</i>	Abbreviations: <i>Full</i>
NA	=	nicht anwendbar	NA
NT	=	nicht getestet	NT
			Pass/ =
			failed
			not applicable
			not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.			

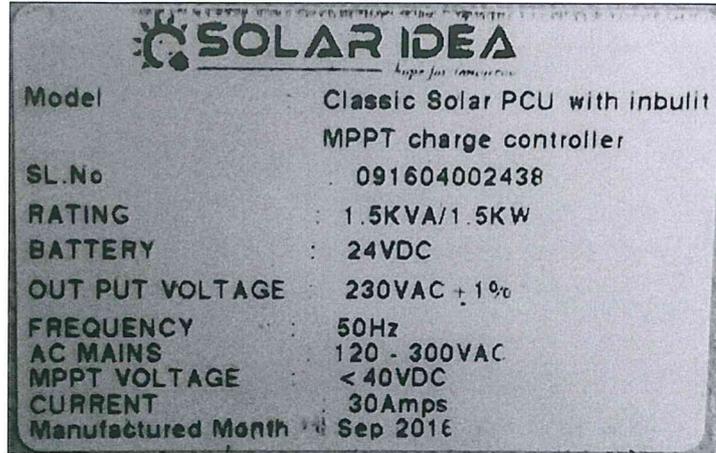
TÜV Rheinland (India) Pvt. Ltd. - 82/A, West Wing, 3rd Main Road, - Electronic City Phase 1, - Bangalore - 560100 - INDIA
Tel: +91 80 3969 9898 - Fax: +91 80 3055 4342 - Web: www.tuv.com - Rev. 2.0 2013-05-13 / approved: G. Kalyan Varna



TEST REPORT																	
ENVIRONMENTAL TESTING																	
Report reference No.	19631087 001																
Tested by (printed name and signature).....	(see cover page)																
Approved by (printed name and signature).....	(see cover page)																
Date of issue	(see cover page)																
Testing Laboratory Name	TÜV Rheinland (India) Pvt. Ltd.																
Address	Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India																
Applicant's Name	Solar Idea Pvt. Ltd.																
Address	8-2-277/A/7, Plot No.126, Road No.2, Banjara Hills, Hyderabad – 500034, Telangana, India																
Test specification																	
Standard.....	IEC 60068-2-30, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2 (As per MNRE / Customer requirement).																
Test procedure	QMA 36.201.01																
Non-standard test method.....	N/A																
Test Report Form No.	TUVR_ENV_R2																
TRF originator	TUVR																
Master TRF	2009.08.20																
Copyright © 2008 TUVR PSQ for Conformity Testing and Certification of Electrical Equipment. All rights reserved.																	
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Test item description	Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller																
Manufacturer	Solar Idea Pvt. Ltd.																
Model and/or type reference	1500VA																
Serial number.....	091604002438																
Rating(s).....	<table> <tr> <td>RATING</td> <td>:1.5KVA / 1.5KW</td> </tr> <tr> <td>BATTERY</td> <td>:24VDC</td> </tr> <tr> <td>OUT PUT VOLTAGE</td> <td>:230VAC ± 1%</td> </tr> <tr> <td>FREQUENCY</td> <td>:50Hz</td> </tr> <tr> <td>AC MAINS</td> <td>:120 – 300VAC</td> </tr> <tr> <td>MPPT VOLTAGE</td> <td>:<40VDC</td> </tr> <tr> <td>CURRENT</td> <td>:30Amps</td> </tr> <tr> <td>Manufactured Month</td> <td>:Sep 2016</td> </tr> </table>	RATING	:1.5KVA / 1.5KW	BATTERY	:24VDC	OUT PUT VOLTAGE	:230VAC ± 1%	FREQUENCY	:50Hz	AC MAINS	:120 – 300VAC	MPPT VOLTAGE	:<40VDC	CURRENT	:30Amps	Manufactured Month	:Sep 2016
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CURRENT	:30Amps																
Manufactured Month	:Sep 2016																

Environmental Testing

Copy of marking plate:



General product information:

EUT is a Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller.

Summary of testing:

This report covers Environmental Tests undertaken as per customer's specifications with reference to the listed standards.

EUT continues to work after each test and no physical damages were observed.



Environmental Testing

<p>Particulars: test item vs. test requirements</p> <p>Equipment orientation: Stationary</p> <p>Operating condition: OFF during testing</p> <p>Condition of the equipment at the time of receipt.....: Good</p>
<p>Test case verdicts</p> <p>Test case does not apply to the test object ..: N/A</p> <p>Test item does meet the requirement: P(Pass)</p> <p>Test item does not meet the requirement ..: F(Fail)</p>
<p>Testing</p> <p>Date of receipt of test item: 2016.09.26</p> <p>Date(s) of performance of test: 2016.09.27 to 2016.10.04</p>

General remarks

The test result presented in this report relate only to the object(s) tested.
 This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(See appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

Attachments:

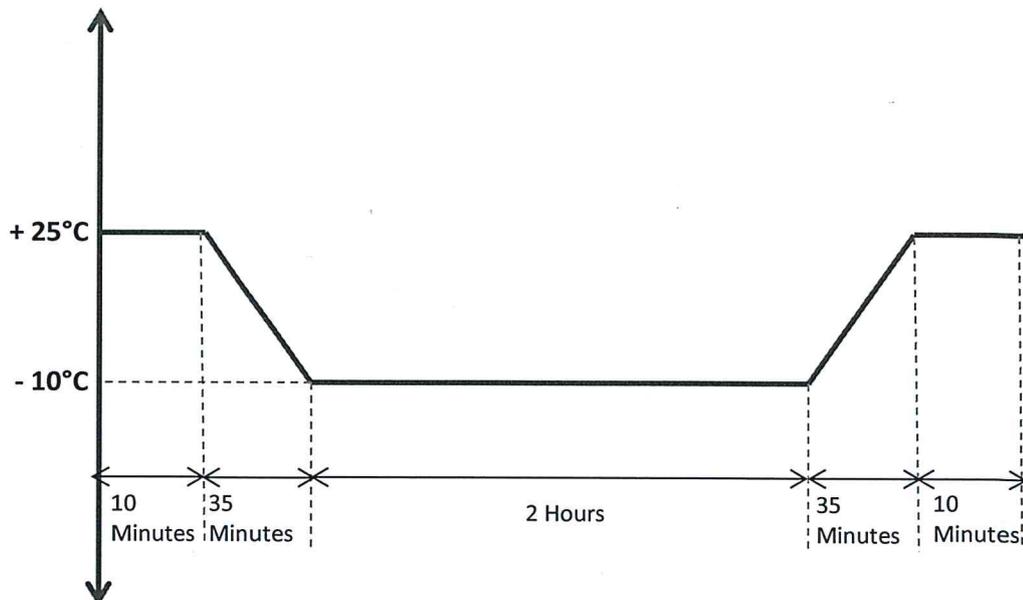
Attachment 1: Photo Document



Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

1	Cold Test as per IEC 60068-2-1		P
1.1	Pre-checks		P
1.1.1	Examination before environmental conditioning.		P
1.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
1.1.1.2	EUT working condition	EUT was working fine before the cold test.	P
1.2	Cold Test specification		

Graph:



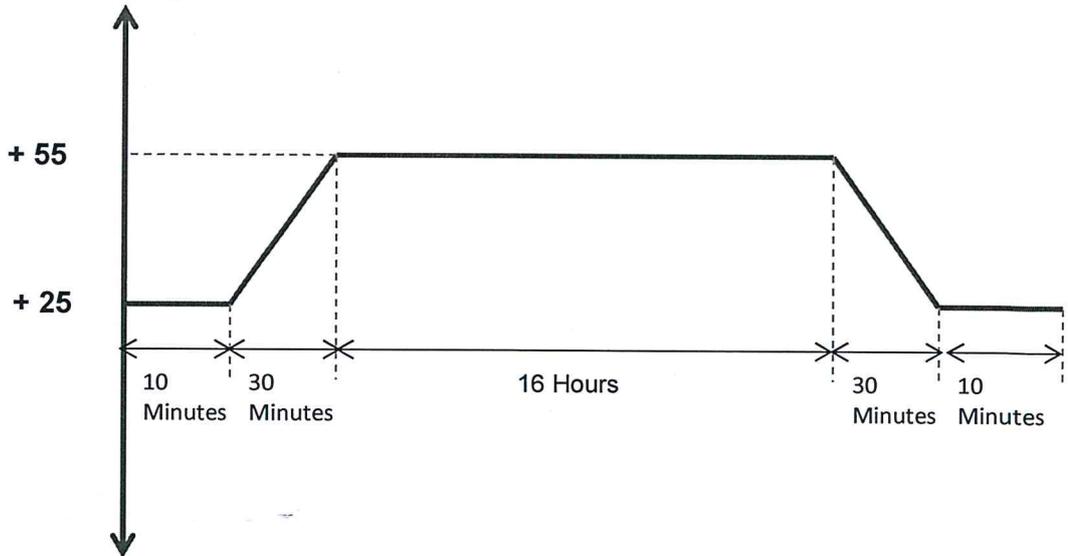
EUT Operating Condition	Powered OFF	-
Test Temperature	- 10°C	-
Dwell Time	2 Hours	-
No. of cycles	1 Cycle	-

1.3	Post check: Examination after environmental conditioning		P
1.3.1	Physical damages	No physical damages were observed	P
1.3.2	EUT working condition	EUT was working fine after the cold test	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

2	Dry Heat Test as per IEC 60068-2-2		P
2.1	Pre-checks		P
2.1.1	Examination before environmental conditioning.		P
2.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
2.1.1.2	EUT working condition	EUT was working fine before the dry heat test.	P
2.2	Dry Heat Test Specification		

Graph:



	EUT Operating Condition	Powered OFF	-
	Test Temperature	+55°C	-
	Dwell Time	16 Hours	-
	No. Of cycles	1 Cycle	-

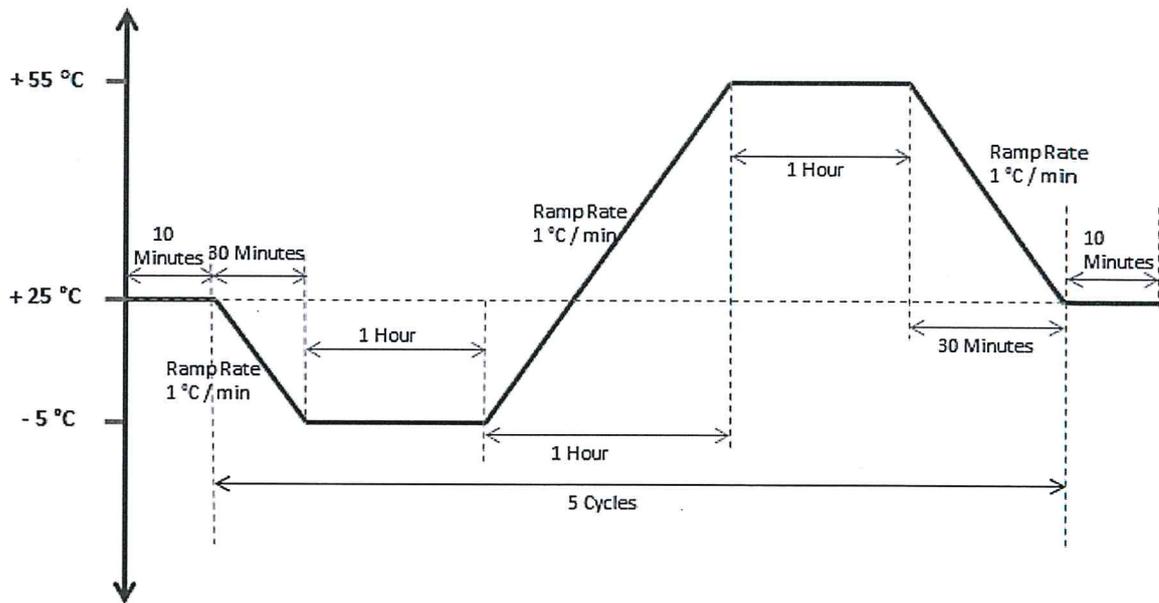
2.3	Post check: Examination after environmental conditioning		P
2.3.1	Physical damages	No physical damages were observed.	P
2.3.2	EUT working condition	EUT was working fine after the dry heat test	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

3	Change of Temperature as per IEC 60068-2-14		P
3.1	Pre-checks		P
3.1.1	Examination before environmental conditioning.		P
3.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
3.1.1.2	EUT working condition	EUT was working fine before the change of temperature test.	P

3.2	Change Of Temperature Test Specification		
-----	--	--	--

Graph:



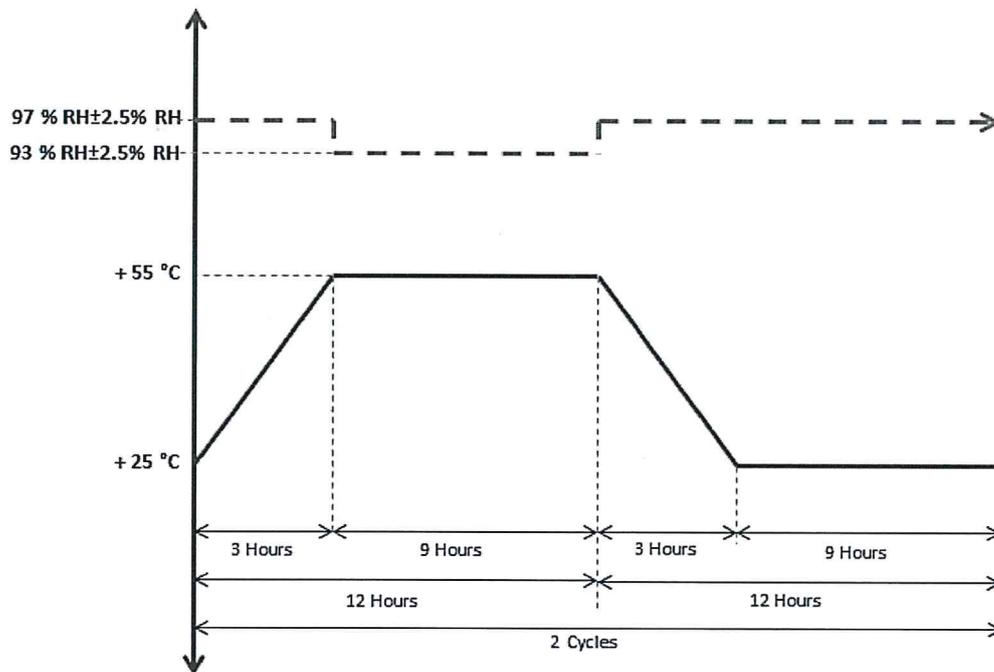
	EUT Operating Condition	Powered OFF	-
	Test Temperature	Upper: +55° C Lower: -5°C	-
	Rate of change of temperature	1°C/min	-
	Dwell Time	1 Hour at each temperature	-
	No. of cycles	5 Cycle's	-

3.3	Post check: Examination after environmental conditioning		P
3.3.1	Physical damages	No physical damages were observed	P
3.3.2	EUT working condition	EUT was working fine after the change of temperature test.	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

4	Damp Heat cyclic as per IEC 60068-2-30	-	P
4.1	Pre-checks		P
4.1.1	Examination before environmental conditioning.		P
4.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
4.1.1.2	EUT working condition	EUT was working fine before the damp heat cyclic test	P
4.2	Damp Heat Cyclic Test Specification		

Graph:



	EUT Operating Condition	Powered OFF	-
	Ramp -up / -down time	3 Hours	-
	One Cycle duration	12 Hours + 12 Hours	-
	No. of cycles	2 Cycle's	-
	Total Test Duration	48 Hours	-

4.3	Post check: Examination after environmental conditioning		P
4.3.1	Physical damages	No physical damages were observed.	P
4.3.2	EUT working condition	EUT was working fine after the damp heat cyclic test.	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

5 Insulation Resistance Test				
Test Voltage	Measured Test Point	Measured resistance		
		Initial	At end of the sequence (After Dry heat test)	–
500V DC	Output line neutral to earth	199 MΩ	2.60 GΩ	P
500V DC	Output line neutral to enclosure	202 MΩ	1.74 GΩ	P
500V DC	Input line neutral to earth	193 MΩ	4.35 GΩ	P
500V DC	Input line neutral to enclosure	196 MΩ	3.85 GΩ	P

Remarks:

Insulation Resistance test was conducted within 30 minutes of recovery period after the completion of dry heat test with IR Tester at a voltage of 500VDC.

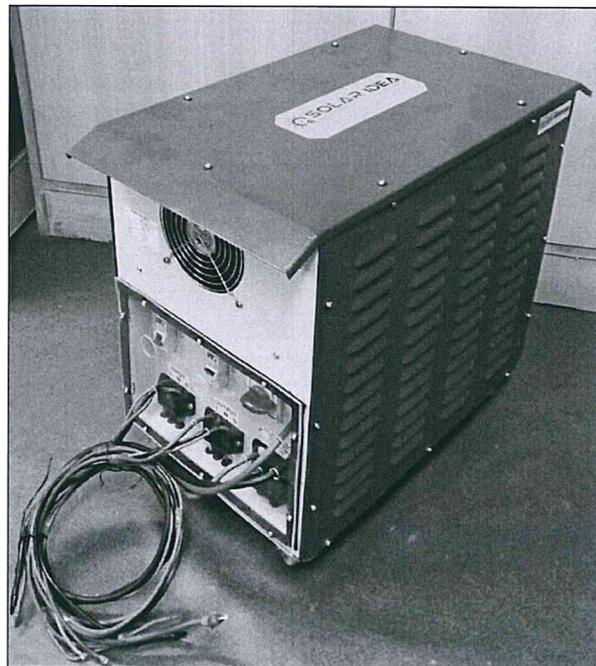
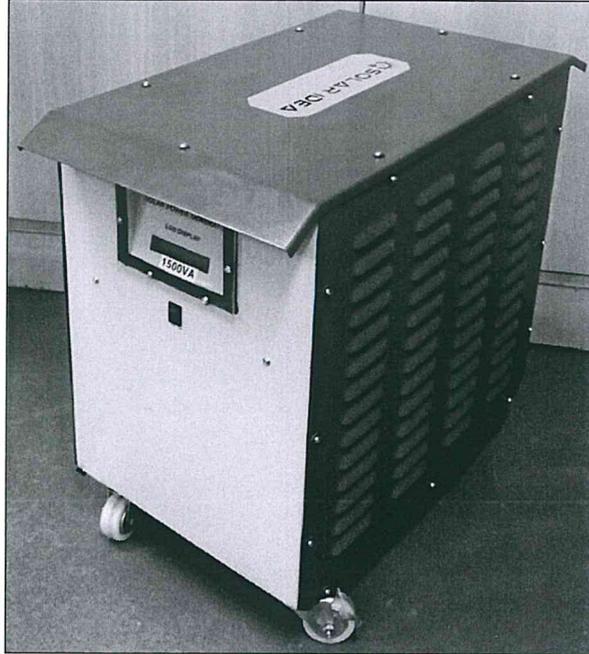
Sl.no.	Test Equipment list			
	Type	Make / Model	Equipment ID No.	Calibration due date
01	Environment Test Chamber	WEISS / 'WK 10'/65-175S	50-2010-0202	16-07-2017
02	IR Tester	Kikusai / TOS-9201	50-2010-0110	20-07-2017
03	Clamp on Meter	Fluke / Fluke-336	50-2010-0104	16-07-2017



Environmental Testing

Attachment-1

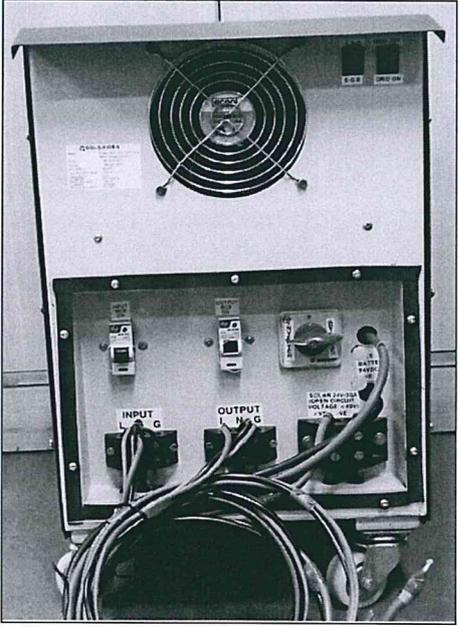
Photo Document



Overall View



Environmental Testing
Attachment-1

	Front View
	Rear View

* End of Report *